

IN THE CLAIMS

1-25 (canceled)

26. (new) A self-crosslinking high molecular weight polyurethane dispersion based on oxidatively drying diols and/or triols, wherein the reaction components comprise:

(A) from >12 to 30% by weight of an unsaturated fatty acid component which is capable of oxidative drying and comprises at least one unsaturated fatty acid derivative or fatty acid epoxy ester having two or three reactive hydroxyl groups,

(B) from 2 to 11% by weight of a polyol component comprising

(i) from 0 to 1.5% by weight of at least one low molecular weight polyol having two or more reactive hydroxyl groups and a molecular mass of from 60 to 150 dalton,

(ii) from 0.8 to 6% by weight of at least one higher molecular weight polyol having two or more reactive hydroxyl groups and a molecular mass of from 500 to 4000 dalton,

(iii) from 1.2 to 3.5% by weight of at least one anionically modified polyol having two or more reactive hydroxyl groups and one or more carboxyl groups which are inert toward polyisocyanates,

(C) from 8 to 25% by weight of a polyisocyanate component comprising at least one polyisocyanate or polyisocyanate derivative having two or more aliphatic or aromatic isocyanate groups,

(D) from 0 to 10% by weight of a solvent component comprising at least one solvent which is inert toward polyisocyanates and is completely or partially miscible with water,

(E) from 0.5 to 3% by weight of a neutralization component comprising at least one base based on an amine or hydroxide,

(F) from 0 to 0.5% by weight of a siccative component comprising at least one water-emulsifiable active or auxiliary dryer,

(G) from 0.5 to 3% by weight of a chain extension component comprising at least one polyamine having two or more reactive amino groups, and water as the balance.

27. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (A) has an iodine number in the range from 100 to 150 g I₂·(100g)⁻¹, a hydroxyl number of from 120 to 150 mg KOH·g⁻¹ and an acid number of from 1 to 5 mg KOH·g⁻¹.

28. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (A) has a viscosity of from 2500 to 25 000 mPa·s (20°C).

29. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (A) comprises a reaction product of unsaturated fatty acids and aliphatic or aromatic epoxy resins or polyepoxides having two or three epoxide groups which are reactive toward fatty acid.

30. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (A) comprises a reaction product of at most triply unsaturated fatty acids having an iodine number of from 170 to 190 g I₂·(100g)⁻¹ and aliphatic or aromatic epoxy resins or polyepoxides having an epoxide number of >0.5 eq·(100g)⁻¹.

31. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (B) (i) comprises at least one low molecular weight polyol having a molecular mass of from 90 to 140 dalton.

32. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (B) (ii) comprises a polymeric polyol selected from the group consisting of polyalkylene glycols, aliphatic or aromatic polyester polyols, polycaprolactone polyols and polycarbonate polyols and combinations thereof.

33. (new) The polyurethane dispersion as claimed in claim 32, wherein said component (B) (ii) comprises linear or bifunctional polypropylene glycols.

34. (new) The polyurethane dispersion as claimed in claim 26 wherein said component (B) (ii) comprises at least one higher molecular weight polyol having a molecular mass of from 1,000 to 2,000 daltons.

35. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (B) (iii) comprises at least one bishydroxyalkanecarboxylic acid.

36. (new) The polyurethane dispersion as claimed in claim 35, wherein said bishydroxyalkanecarboxylic acid is dimethylolpropionic acid.

37. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (B) (iii) comprises at least one anionically modified polyol having a molecular mass of from 100 to 200 daltons.

38. (new) The polyurethane dispersion as claimed in claim 26, wherein said neutralization component (E) comprises ammonia and/or tertiary amines.

39. (new) The polyurethane dispersion as claimed in claim 26, wherein said neutralization component (E) comprises an alkali metal hydroxide.

40. (new) The polyurethane dispersion as claimed in claim 26, wherein said neutralization component (E) is present in such an amount that the degree of neutralization based on the free carboxyl groups is from 80 to 100 equivalent-%.

41. (new) The polyurethane dispersion as claimed in claim 26, wherein said siccative component (E) comprises at least one of a metal soap or a metal salt.

42. (new) The polyurethane dispersion as claimed in claim 26, wherein said chain extension component (G) is present in such an amount that the degree of chain extension is from 50 to 100 equivalent-%, based on the free isocyanate groups of the prepolymer.

43. (new) The polyurethane dispersion as claimed in claim 26, wherein said component (A) is present in an amount of from >12 to 20% by weight; said component (B) (i) is present in an amount of from 0.4 to 1% by weight, said component (B) (ii) is present in an amount of from 1.6 to 5% by weight; said component (B) (iii) is present in an amount of from 1.6 to 3% by weight; said component (C) is present in an amount of from 12 to 20% by weight; said component (D) is present in an amount of from 7 to 9% by weight; said component (E) is present in an amount of from 1 to 2% by weight; said component (F) is present in an amount of from 0.1 to 0.5% by weight; said component (G) is present in an amount of from 1 to 2% by weight; and the balance is water.

44. (new) The polyurethane dispersion as claimed in claim 26, wherein a NCO/OH equivalent ratio of the components (A), (B) and (C) is in the range from 1.2 to 2.0, preferably in the range from 1.4 to 1.8.

45. (new) The polyurethane dispersion as claimed in claim 26, wherein a solids content is from 30 to 60% by weight.

46. (new) The polyurethane dispersion as claimed in claim 26, wherein said polyurethane resin has a molecular mass of from 50,000 to 100,000 daltons.

47. (new) A process for preparing the polyurethane dispersion as claimed in claim 26 comprising

a) reacting said components (A) to (C), optionally in said solvent component (D), and optionally in the presence of a catalyst, to form a polyurethane prepolymer;

b) subsequently reacting the prepolymer from stage a) with said neutralization component (E) and, optionally, with the siccative component (F); and

c) subsequently dispersing the prepolymer from stage b) in water reacting it with the chain extension component (G) to form the high molecular weight polyurethane dispersion.

48. (new) The process as claimed in claim 47, wherein reaction stage a) is carried out at from 60°C to 120°C.

49. (new) The process as claimed in claim 47, wherein reaction stage (a) is carried out in the presence of from 0.01 to 1% by weight, based on the components (A) to (D), of a catalyst suitable for polyaddition reactions on a polyisocyanate.

50. (new) A one-component paint, varnish, coating for the surfaces of a mineral building material selected from the group consisting of concrete, wood, a wood material, a paper, metal a plastic a one-component adhesive or a sealant in the building sector comprising a binder comprising the polyurethane dispersion of claim 26.